

Remarks

Claims 1-17 and 22-26 remain in the application.

The description has been amended as listed above to correct editorial errors and deficiencies. The amendments introduce no new matter and no substantive issues and do not affect the scope of the claims.

The Examiner has rejected claim 8 under 35 U.S.C. §112, ¶2 for lack of antecedent basis for “said first optical signal.” This claim has been amended in a number of ways to provide the required antecedent basis and to conform to the obvious intent of the originally filed claim..

The Examiner has rejected claims 7 and 11 under 35 U.S.C. §102(b) as anticipated by Sotom et al. (U.S. Patent 5,896,212, hereinafter Sotom). Claim 7 has been amended to recite the demultiplexing of the control and data signal in a multi-mode interference filter, as supported at page 13, line 17 and following. No such feature is found in the cited art for separating wavelengths for control and payload. Claim 11 depends from claim 7 and should therefore also be allowable.

The Examiner has rejected claim 12 under 35 U.S.C. §102(b) as being anticipated by De Bosio (U.S. Patent 4,939,721). This rejection is traversed. DeBosio uses his signaling information at wavelength W1 only for switching the information signal at wavelength W2. He uses the same one-to-one correspondence between wavelengths for signaling and data information for the remaining inputs 15a to 15z to his optical switch matrix MOT. He does not use, as required by claim 12, the signaling information at the first optical wavelength for switching a data portion at a selected one of a plurality of optical data signals of different second optical wavelengths. Instead, he switches a data portion at a predetermined second optical wavelength. To make this distinction perfectly clear, claim 12 has been amended to require that the selected data wavelength be determined by contents of the control signal although such a requirement is believed to have been at least implicit in the prior language.

The Examiner has rejected claims 4, 7, 8, 12, and 15 under 35 U.S.C. §102(e) as being anticipated by Chang et al. (U.S. Patent 6,754,450, hereinafter Chang). This rejection is

traversed.

Claim 4 requires that the header be sufficiently ahead of the data payload to allow processing of routing information within that time period. The Examiner cites Chang at col. 14, ll. 61-65 for this limitation. In fact, this passage describes the opposite situation in which fiber delays 415 to 417 in FIG. 4 (which Chang is describing in the paragraph beginning at col. 14, l. 24) are placed after the control signals have been tapped off in order to allow processing time. Chang states at col. 14, ll. 47-51 that the “delay imposed by fibers 415, 416, or 416, which are placed in input paths 401-403 to switching device 430, are such that the delay is larger than the total time it takes to read signaling header 210, to complete a table look-up, and to effect switching.” Clearly, this description does not conform to the requirement that the “processing may be performed within a time period of no more than said time difference” between the header and data payload. Accordingly, claim 4 should be allowable.

Chang’s multi-casting does not read upon claim 7. For the requirement that the second impressing step of impressing an optical control signal at a second wavelength for all data payloads at plural first wavelengths, the Examiner cites col. 4, ll. 59-62 of Chang. First, this section of Chang is describing prior art which Chang immediately dismisses as unworkable and instead states at col. 4, ll. 5-7 that “it is preferred that the sub-carrier head and the data portion be carried by the same wavelength.” In so far as col. 4, ll. 59-62 teaches different wavelengths for the control and payload portion, it is strictly limited to its teaching, which does not state that there are multiple payload wavelengths for the single control wavelengths. The passage cannot be combined with other portions of Chang even under a one-reference §103 rejection since Chang teaches against the cited passage and hence the cited art clearly lacks a suggestion for the advantage of making a combination of the cited passage and later portions of Chang.

Chang in reference to FIGS. 8, 9, and 12 is clearly describing headers contained on the same wavelength as data payload. For example, in FIG. 12, headers A1 and B2 are separated from lines 1211, 814 before the payloads in those lines 1211, 814 are delayed in fiber loops 8111 in the respective lines 1211, 814 and thereafter switched in optical switches 1251, 852. His multi-casting is apparently accomplished by a header being composed of sub-headers for the

multiply selected output ports (col. 20, ll. 2-9). It is not understood how Chang can be interpreted to be using the control signal of one wavelength channel to switch packets in another wavelength channel and thus does not conform to the requirement in claim 7 of "an optical control signal containing directional information for switch of all of said packet payloads and carried at a second optical wavelength difference from said first optical wavelengths," according to which the packet payloads are carried. Accordingly claim 7 should be allowable.

Claim 8 depends from claim 7 and should therefore also be allowable.

The same argument applies to claim 12, which requires control information at a first optical wavelength controlling switching of packet data portions at plural second wavelengths.

The same argument applies to claim 15, which requires labels portions at a second wavelength associated with data portions at plural first wavelengths.

Accordingly, claims 7 and 15 should be allowable for much the reasons as presented above for claim 7.

For these reasons, claims 4, 7, 8, 12, and 15 should be allowed.

The Examiner has rejected claims 1-3, 5, 6, 9, 10, 13, 14, 16, and 17 under 35 U.S.C. §103(a) as being obvious over Chang in view of Schmidt et al. (U.S. Patent 6,426,831, hereinafter Schmidt). This rejection is traversed. The reference to Schmidt does not cure the deficiency of the Chang reference. Schmidt discloses use of silica fiber for WDM packet switching and little more for the purposes of the claimed invention.

Claim 1 has been broadened to an optical communication path although the recitation of the different silica bands remain. This claim requires that the payload and control signal be transmitted in different silica bands. No art has been shown for use of different bands for the two signal. At most, the prior art describes different wavelengths for the two signals, not different bands, as that term is used by Applicant. To make this distinction more clearly correlate with the description of the invention at page 3, lines 26-36, the silica bands are now recited to be transmission bands although the clear meaning of the prior language follows the description of bands in that passage. The Applicant is entitled to be his own lexicographer. Nowhere in the description is band used to mean a sub-range without a given silica transmission

band. New dependent claim 21 requires that the two bands be separated by wavelengths not usable in silica fiber and claim 22 further specifies these bands, as supported at page 3, ll. 27-34. The art is silent on use of different transmission bands for payload and control. Accordingly, claim 1 should be allowable. Accordingly, claim 1 should be allowable.

Claims 5 and 6 depend from claim 4, which has already been distinguished over Chang and Schmidt does not supply the deficiency. Thus, these claims should also be allowable. The wording of claim 5 has been editorially improved with no change in its meaning. New dependent claim 23 more directly defines the different silica bands of claim 5.

Claim 9 requires that the two wavelengths be in different silica transmission bands, a feature not taught in the art, as discussed above for claim 1. New dependent claim 24 specifies the different bands. Accordingly, these claims should be allowable.

Claims 10 and 13 depend from claims believed to be in allowable form and should therefore also be allowable.

Claim 14 has been amended to its clearly intended form. It recites the different silica transmission bands, a feature not found in the art. New dependent claim 25 specifies the different bands. Accordingly, these claims should be allowable.

Claims 16 and 17 depend from claims believed to be in allowable form and should therefore also be allowable. New dependent claim 26 specifies the different silica transmission bands.

In view of the above amendments and remarks, reconsideration and allowance of all claims are respectfully requested. If the Examiner believes that a telephone interview would be helpful, he is invited to contact the undersigned attorney at the listed telephone number, which is on California time.

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